

THE FOLLOWING CLAIMS ARE IN THE APPLICATION;

claim 1 (once amended to include limitations of original claims 1, 2, and 3).

claim 2 (cancelled)

5 claim 3 (cancelled)

claim 4 (contains subject matter of original claim 4, amended to state dependency on claim 1 once amended.

claim 5 contains subject matter of original claim 5, amended to state dependency on claim 4

10 claim 6 (new)

The Examiner is referred to the SEPARATE CLAIM SHEET accompanying this amendment, showing markup and clean copy of claims 1, 4, 5 and 6. To make interpretation of claim 1 once amended easier for the Examiner, applicant has provided
15 numerical callouts.

DISCUSSION

The substitute declaration contains a power of attorney and now correctly places applicant's statement of citizenship as required by the Examiner.

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The new title as suggested by the Examiner is adopted.

Minor amendments to the specification are sought to correct informalities. No new matter is added.

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The claims now presented adhere to the requirements of indentation; and cure incorrect capitalization as asked by the Examiner in paragraphs 3 and 4 of the Action.

The Examiner has rejected claims 1-3 under 35 U.S.C. 102(b) as being anticipated by
30 Douglas et al (US6,332,871). The Examiner has found allowable subject matter in claims

4 and 5 if rewritten in independent form to include all the limitations of the base claim and any intervening claims.

Applicant has amended claim 1 to include all the limitations of claims 1, 2 and 3.

5 Applicant has restated the dependencies of claims 4 and 5. It is believed that allowable matter is presented in these claims as amended.

Applicant presents new claim 6 and in so doing respectfully traverses the theory of Examiner's rejection of claims 1-3 on Douglas et al.. Several major distinctions are
10 readily apparent between the Douglas et al teaching and applicant's device. as claimed in new claim 6.

A brief review of Douglas et al 6,332,871 appears in order.

15 According to col. 1 lines 8-11, Douglas et al teaches a device for obtaining samples of blood or other fluid from a subject or "body" for analysis and testing, as does applicant's invention. Douglas' blood drawing device is a "lancet", which is a type of device that pierces or nicks the skin to acquire a blood sample. A typical mode of construction of a lancet such as the Douglas et al device, consists of a rigid body with a needle protruding
20 from one end. The blood-drawing assembly typically is latched in a spring-loaded, retracted position. In use, the assembly is brought into contact with skin either by the user or by an attendant. Upon actuation by the user, the lancet device is moved by spring action at high speed through a predetermined distance that allows the needle to just pierce the skin surface to acquire drops of blood sample, and then retract. The movement
25 is rapid and under the control of the user or attendant so that the subject is not conscious of pain or irritation from the piercing. Douglas et al and the many references they cite in their Background section serve this purpose and operate similarly.

Applicant's device overall is more than a lancet for drawing blood. The Douglas device is
30 constructed to *be held by a user or attendant* in some pre-selected contact with the subject during its use. The user selects the time of triggering. In applicant's invention, a

projectile assembly 6 is launched from a remote point. It is aimed at a subject, not applied by an attendant or patient. For applicant's invention to be *held* in contact with the subject would of course alert the subject and negate the element of surprise in collection of the blood sample.

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Applicant's device requires more than Douglas et al show: specifically, a barrel 10, a triggering mechanism 14 and a propellant 12 to launch needle projectile assembly 6, These components are shown in applicant's Fig. 1. Fig. 2 shows applicant's projectile assembly 6 in an at-rest position in barrel 10. Projectile assembly 6 includes a cylindrical casing 30, in which a chamber 29 slidably travels in piston-like fashion along the cylindrical interior wall 7 of casing 30. The slide motion is shown in Figs. 2 and 3 and involves no spring loading such as Douglas et al utilize.

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Within applicant's chamber 29 is another chamber 28 which comprises a blood reservoir connected to needle 15. Fig. 3 shows projectile assembly 6 shortly after it has completed its aerial travel path and come essentially to rest as it contacts the subject. At this point, needle 15 extends out from assembly 6. as a result of the momentum of needle 5 and the connected chamber 28 and chamber 29, which cause these components to continue traveling within the space 33. This action is described at p. 4 line 23 et seq. Again, no spring action such as described in Douglas et al is used in causing penetration of needle 15.

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To withdraw applicant's needle 15 and associated blood chamber 28, applicant in accordance with his invention provides a spring 34 which normally is held in compression by a pin 35. as shown in Figs. 2 and Fig. 3. The momentum of chamber 28 carries it to pin 35, at which time the pin 35 is sheared off releasing the compression energy stored in spring 34. The spring release, shown in Fig. 5, propels needle 15, blood reservoir 27 and associated components 28 and 29 away from the subject. This action is described at page 5, lines 7 through 14. Nothing of this sort is taught or suggested in Douglas et al.

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The Examiner nevertheless sees in Douglas et al structure and operation similar to applicants'. The similarity if any of Douglas et al to applicant's claims resides only in the generality that Douglas shows system to insert a needle into skin, control the depth of penetration, retract the needle and simultaneously activate a suction syringe which draws
5 a blood sample.

Certain spring mechanisms are shown in Douglas et al to effectuate this operation, which the Examiner relied on in framing his rejection original claims 1-3 under 35 U.S.C. 102(a). Applicant has described his invention's operation above. Applicant will now
10 describe the operation of Douglas et al in order to show that none of the components including various spring mechanisms referred to by the Examiner are designed to function in the manner claimed by applicant in new claim 6.

Douglas et al shows a needle 16 which "can be retracted or deployed (into skin)..." (col.
15 10, line 19) Needle 16 is part of a "disposable" 3 shown in Fig. 1 and in more detail in Figs. 2A and 2B. When a patient pulls up on plunger 22, that action "arms" the drive springs 11 which places needle 16 in the retracted position of Fig. 2A (Douglas col. 11 lines 49, 50). When plunger 22 is pressed down, the needle "activates" to punctures the patient's shin. Springs 21 shown in Fig. 3 then "provide a mechanism after activation to
20 pull the needle back out of the wound to permit blood accumulation (col. 10, line 31). Concurrently, a suction spring 6 is released which slowly draws blood into a syringe 13.

In summary all of this action just described only accomplishes the puncturing of skin by the user triggering a spring-loaded needle to travel a controlled distance, the retracting of
25 the needle, and (by other spring actions) the drawing of blood.

Obviously missing altogether from this operation is applicant's idea of firing from afar of a skin-penetrating and blood sampling device, the unsuspected landing of the device on an intruder, and the launching or springing-away from the intruder of the blood sample
30 to some random remote point in the vicinity. It clearly is not within the teaching of Douglas to accomplish this; nor could his device be adapted to do so without wholesale

re-design – in which case one would not select any of his complicated Douglas et al spring mechanisms designed to be minimally intrusive to a patient.

These distinctions are amply stated in new claim 6. For example, claim 6 calls for

- 5 a launching device comprising a barrel;
 a projectile assembly housed in said barrel;

Clearly. Douglas et al do not suggest such structure.

Further, claim 6 calls for

- 10 means responsive to a triggering mechanism associated with said launching
device for propelling said projectile assembly from said barrel and into contact with an
intruder;

Douglas et al do not have a “barrel”.

Claim 6 also calls for the penetration of the needle to be accomplished by the following

- 15 action:
 said contact causing said first chamber with its said needle to exit said casing through
 its forward momentum and insert said needle into said intruder for drawing blood
 into said reservoir;

- Douglas et al do not suggest the insertion of a needle by the momentum of a projectile
20 assembly component unaided by any spring action.

Claim 6 also calls for:

- means responsive to a maximum penetration of said needle into said intruder for
extracting said needle and for ejecting said first chamber and its said needle and
25 associated reservoir a substantial distance from said intruder.

The “means” illustrated is a coil spring which when released ejects the needle and
reservoir.

Douglas et al does not “eject” the needle and reservoir, much less eject these a substantial
distance from the person from whom the blood was extracted.

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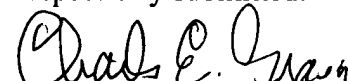
For the preceding reasons applicants respectfully urge that new claim 6 contains patentable novelty over Douglas et al.

The five references cited but not applied in paragraph 12 of the Action have been
5 examined. None singly or in any proper combination can reasonably be construed to anticipate or render obvious applicants new claim 6. The disclosures of US 6,210,420, US 5,368,047, US 5,324,303, and US 4,517,978 and the published application 2002/0111565 all show standalone lancet devices intended to be administered by the user or attendant. None of the references cited but not applied device have any teaching
10 or suggestion of structure for launching the lancet assembly from afar and springing away from the subject following extraction.

Allowance of claim 1 once amended, claims 4, 5, and new claim 6 is respectfully solicited.

15 If the Examiner has any questions or wished to discuss any aspect of the case with the applicant's attorney he is invited to contact the undersigned.

Respectfully submitted:

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Charles E. Graves

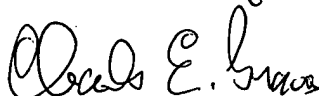
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February 13, 2006

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25 **Certificate of Mailing:**

The undersigned hereby certifies that he mailed this amendment with a US Postal Service facility in Austin TX on February 13 2006

30 Charles E. Graves 

1 **IN THE UNITED STATES**
2 **PATENT AND TRADEMARK OFFICE**

3
4 **PATENT APPLICATION**

5 James H. McNenny

6 **APPLICATION NO.** 10/651,117

7 **TITLE (NEW) Projectile Blood Collection Device**

8 Amendment SEPARATE CLAIM SHEET

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10 **CLAIMS MARKED UP**

1 Claim 1 (once amended). Apparatus for obtrusively obtaining a blood sample from an
2 intruder at a crime scene to be later analyzed for DNA, said apparatus comprising:

3 a blood-extracting needle 15 for penetrating the skin of said intruder;

4 a blood-collecting reservoir 27 connected to said needle 15;

5 a first chamber 29:

6 means for mounting said needle 15 on said first chamber 29:

7 means for mounting said reservoir 27 in said first chamber 29:

8 means for holding an initial vacuum in said first chamber 29.

9 a cylindrical casing 30 having a cylindrical interior 7;

10 said first chamber 29 being slidably mounted in said cylindrical interior 7;

11 a facing 17 at a first end of said casing 30 and having a center hole 31 for

12 receiving said needle:

13 a coil spring 34 positioned adjacent to the interior side of said facing; (and)

14 retaining means 35 for securing said coil spring 34 in a normally loaded mode.

15 means 10, 11, 12, 13, 14 for propelling said needle 15 and the connected said
16 reservoir 27 into contact with an intruder;

17 means 29, 27, 7 responsive to said contact for inserting said needle 15 into said
18 intruder; and

19 means 41, 35, 34 including said coil spring responsive to a maximum penetration
20 of said needle 15 into said intruder for extracting said needle 15 and for ejecting said
21 needle 15 and associated reservoir 27 a substantial distance from said intruder.

1 Claim 4. Apparatus in accordance with claim (3) 1, further comprising:
2 an extension collar attached to said facing for receiving said needle;
3 said collar comprising an elongate rearward-extending rod;
4 said means for holding an initial vacuum in said first chamber comprising
5 an entrance to the interior of said first chamber facing said rod;
6 and a plug inserted in said first chamber entrance;
7 said rod punching out said plug as said first chamber travels toward said rod
8 following said contact with said intruder thereby releasing said vacuum and reducing
9 pressure in the space occupied by said spring and said collar.

1 Claim 5. Apparatus in accordance with claim 4, further comprising:
2 an extension disposed on the exterior of said first chamber
3 said extension being in alignment with said coil spring retaining means;
4 whereby forward movement of said first chamber shears said retaining means
5 thereby releasing said spring and ejecting said first chamber said reservoir and said
6 needle from said (and said) casing.

1 Claim 6. (new) Apparatus for obtrusively obtaining a blood sample from an intruder at a
2 crime scene (to be later analyzed for DNA), said apparatus comprising:
3 a launching device comprising a barrel;
4 a projectile assembly housed in said barrel and comprising
5 a cylindrical casing;
6 a first chamber slidably mounted in said casing and containing
7 a blood-extracting needle for penetrating the skin of a said
8 intruder; and
9 a blood-collecting reservoir connected to said needle;
10 means responsive to a triggering mechanism associated with said launching
11 device for propelling said projectile assembly from said barrel and into contact with an
12 intruder;

13 said contact causing said first chamber with its said needle to exit said casing by
14 its forward momentum and insert said needle into said intruder for drawing
15 blood into said reservoir; and
16 means responsive to a maximum penetration of said needle into said intruder for
17 extracting said needle from and for ejecting said first chamber and its said needle and
18 associated reservoir a substantial distance from said intruder.